

Claims

What is claimed is:

2 A decorating medium for creating relief art on a substrate surface, the medium
3 comprising:

- 4 a. a water-based emulsion body; and
5 b. an expandable polymer with a blowing agent encapsulated therein,
6 wherein the medium is cured and expanded when heated after application to the
substrate surface.

1 2. The decorating medium of claim 1, wherein the water-based emulsion body
2 comprises an acrylic binder and an acrylic thickener.

1 3. The decorating medium of claim 2, wherein the acrylic binder is selected from the
2 group consisting of Vinyl Acetate-Ethylene Polymer, Vinyl Acetate-Vinyl
3 Chloride-Ethylene Terpolymer and a Vinyl-Acrylic Polymer.

1 4. The decorating medium of claim 2, wherein the acrylic binder is in the range of 25
2 to 95 percent of the total weight of the decorating medium.

1 5. The decorating medium of claim 2, wherein the thickener is pH sensitive and that
2 causes viscosity of the decorating medium to increase to a range of 3,000 to
3 25,000 centipoise and in a pH range of 7.0 to 9.0.

1 6. The decorating medium of claim 2, wherein the acrylic thickener is in a range of
2 0.5 to 10 % percent of the weight of the decorating medium.

1 7. The decorating medium of claim 1, further comprising a preservative in the range
2 of 0.005 to 0.50 percent of the total weight of the medium.

1 8. The decorating medium of claim 7, wherein the preservative is selected from the
2 group consisting of Hydroxyalkyl-1 -aza- 3, 7-dioxabicyclo(3.3.0) octane,
3 Tetrachlorisophthalonitrile 1,2-Benzisothiazolin-3-one, and Phenoxyethanol.

1 9. The decorating medium of claim 1, wherein the expandable polymer is a
2 Polyvinylidene Chloride polymer encapsulating an alkane blowing agent.

1 10. The decorating medium of claim 9, wherein the blowing agent is Isobutane.

1 11. A system for decorating surfaces, the system comprising:
2 a. a water based heat curable and expandable medium; and
3 b. a water compatible decorating additive for mixing with the heat curable
4 and expandable medium.

1 12. The system of claim 11, wherein the decorating additive is a coloring agent
2 selected from the group consisting of ink, dye, food coloring, acrylic paint, finger
3 paint and tempera paint.

1 13. The system of claim 11, wherein the water based heat curable and expandable
2 medium comprises:
3 a. an emulsion body comprising an acrylic binder and an acrylic thickener or
4 a cellulosic thickener; and
5 b. an expandable polymer with a blowing agent encapsulated therein,
6 wherein the medium is cured and expanded when heated to temperatures below
7 140 Celsius.

1 14. The system of claim 13, wherein the acrylic binder is selected from the group
2 consisting of Vinyl Acetate-Ethylene Polymer, Vinyl Acetate-Vinyl Chloride-
3 Ethylene Terpolymer and Vinyl-Acrylic Polymer.

1 15. The system of claim 13, wherein the acrylic binder is in the range of 25 to 95
2 percent of the total weight of the medium.

1 16. The system of claim 13, wherein the thickener is pH sensitive and that causes the
2 viscosity of the decorating medium to increase to a range of 3,000 to 25,000
3 centipoise and in a pH range of 7.0 to 9.0.

1 17. The system of claim 14, wherein the thickener is in a range of 0.5 to 10 percent of
2 the weight of the medium.

1 18. The system of claim 11, further comprising a preservative in the range of 0.005 to
2 0.50 percent of the total weight of the medium.

1 19. The system of claim 18, wherein the preservative is selected from the group
2 consisting of Hydroxyalkyl-1-aza-3,7-dioxabicyclo(3.3.0) octane,
3 Tetrachlorisophthalonitrile 1,2-Benzisothiazolin-3-one, Phenoxyethanol.

1 20. The system of claim 13, wherein the expandable polymer is a Polyvinylidene
2 Chloride polymer emulsulating an alkane blowing agent.

1 21. The system of claim 20, wherein the blowing agent is Isobutane.

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1 22. A method of creating relief art on a substrate, the method comprising the steps of;
2 a. providing a substrate;
3 b. applying a heat expandable medium in a desired pattern on the substrate,
4 wherein the expandable medium comprises an acrylic emulsion body and
5 expandable polymer with a blowing agent encapsulated therein; and
6 c. expanding the medium by applying heat to the medium whereby the relief
7 art is created.

1 23. The method of claim 22, wherein the substrate is selected from the group
2 consisting of metal, fabric, cloth, glass, cardboard, paper and plastic.

1 24. The method of claim 22, wherein the expandable medium is applied to the surface
2 of the substrate with an applicator selected from the group consisting of a brush, a
3 spatula, a knife and a nozzle.

1 25. The method of claim 22, further comprising the step of providing a mask or a
2 stencil prior to the step of applying the heat expandable medium to the substrate
3 surface.

1 26. The method of claim 22, further comprising the step of decorating the relief art.

1 27. The method of claim 22, further comprising the step of mixing the heat
2 expandable medium with a decorating additive prior to the step of expanding the
3 medium.

1 28. The method of claim 27, wherein the decorating additive is selected from the
2 group consisting of a glitter agent and a water compatible pigment.

1 29. The method of claim 22, wherein the medium is expanded by heating the medium
2 to temperatures in a range of 125 to 140 degrees Celsius for time in a range of 1 to
3 4 minutes.

1 30. The method of claim 22, wherein the step of expanding the medium is
2 accomplished by heating the medium with a microwave source.

1 31. The method of claim 22, wherein the water based emulsion body comprises an
2 acrylic binder and an acrylic thickener or a cellulosic thickener.

1 32. The method of claim 31, wherein the acrylic binder is selected from the group
2 consisting of Vinyl Acetate-Ethylene Polymer, Vinyl Acetate-Vinyl Chloride-
3 Ethylene Terpolymer and Vinyl-Acrylic Polymer.

1 33. The method of claim 31, wherein the acrylic binder is in the range of 25 to 95
2 percent of the total weight of the medium.

1 34. The method of claim 33, wherein the thickener is pH sensitive and that causes the
2 viscosity of the decorating medium to increase to a range of 3,000 to 25,000
3 centipoise and in a pH range of 7.0 to 9.0.

1 35. The method of claim 34, wherein the thickener is in a range of 0.5 to 10 percent of
2 the total weight of the medium.

1 36. The method of claim 22, further comprising a preservative in the range of 0.005 to
2 0.50 percent of the total weight of the medium.

1 37. The method of claim 36, wherein the preservative is selected from the group
2 consisting of Hydroxyalkyl-1-aza-3,7-dioxabicyclo(3.3.0) octane,
3 tetrachlorisophthalonitrile 1,2-Benzisothiazolin-3-one and Phenoxyethanol.

1 38. The method of claim 22, wherein the expandable polymer is a Polyvinylidene
2 Chloride polymer encapsulating an alkane blowing agent.

- 1 39. The method of claim 38, wherein the blowing agent is Isobutane.

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